REMARKS

Claims 1-8 are pending. Claims 1 ans 5 have been amended. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Entry of this Amendment is respectfully requested since no new issues are raised by entry of the Amendment and it places the application in condition for allowance.

Applicants appreciate the courtesies extended to Applicants' Representative by the Examiner during the August 1, 2005 telephone interview with the Examiner. During the interview, Applicants Representative and the Examiner discussed claim 1 in view of Miyazaki and Nelson. The relevant discussion presented during the interview are summarized below with respect to the appropriate rejection.

Further, Applicants have amended claims 1 and 5 to more clearly recite that the supervisory channel is being modulated to control the cross modulation effect.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-8 were rejected under 35 U.S.C. § 103(a) over Miyazaki et al. (U.S. Patent No. 6,414,772) in view of Kinoshita (U.S. Patent No. 6,023,366), Nelson et al. ("Resonances in Cross-Phase Modulation Impairment in Wavelength-Division-Multiplexed Lightwave Transmission, IEEE Photonics Technology Letters, Vol. 11, No. 7, July 1999) and Jopson (U.S. Patent No. 5,386,314). Applicants respectfully traverse this rejection.

Amended claim 1 recites, in part, an apparatus that includes a second transmission means for generating and transmitting a supervisory signal and that the modulation frequency and the intensity of the supervisory signal are modulated in phase to the information signals to control a cross phase modulation effect. As admitted in the Office Action (page 2), Miyazaki does not teach or suggest generating and transmitting a supervisory signal. The Office Action relies on Kinoshita as teaching a supervisory signal and alleges that it would have been obvious to combine Kinoshita with Miyazaki to obtain the features recited in claim 1 less the recited modulation frequency range of the supervisory signal. Applicants respectfully disagree.

As discussed during the telephone interview and in a previous response, Miyazaki discloses a method for transmitting a WDM signal using cross-phase modulation based on the signal channels to reduce SBS (See, for example, column 8, lines 25-55). Miyazaki does not teach or suggest the use of a supervisory signal. Kinoshita discloses including supervisory information regarding the number of channels for controlling the target level of an optical repeater (See Abstract). Kinoshita is silent regarding cross-phase modulation and

therefore is also silent regarding using the supervisory signal for cross-phase modulation. Applicants respectfully assert that the combination of Miyazaki and Kinoshita, fails to teach or suggest that the supervisory signal is modulated in phase to the information signals to control a cross phase modulation effect. At best, the combination of Miyazaki and Kinoshita result in a method for a method for transmitting a WDM signal using cross-phase modulation based on the signal channels to reduce SBS and a supervisory channel that is not modulated since neither reference teaches nor suggests modulating the supervisory signal or more particularly, modulating the supervisory signal to control a cross phase modulation effect, as recited in claim 1.

Additionally, neither Nelson nor Jopson separately or in combination remedy at least this deficiency of the combination of Miyazaki and Kinoshita.

Although the Examiner asserts, in response to Applicants' previous arguments, that the left column of page 907 in Nelson provides some motivation, Applicants disagree. Nelson does not even discuss a supervisory signal. Nelson merely discloses XPM impairment and how different wavelength channels with different group velocities can reduce phase distortion caused by XPM – much like the prior art of the present application describes. Accordingly, no combination of Miyazaki, Kinoshita, Nelson, and Jopson disclose, teach or suggest an apparatus that includes a second transmission means for generating and transmitting a supervisory signal, and that the modulation frequency and the intensity of the supervisory signal are modulated in phase to the information signals to control a cross phase modulation effect, as recited in amended claim 1.

Claim 5 is believed allowable for at least the reasons presented above since claim 5 recites a method that includes generating and transmitting a supervisory signal and that the modulation frequency and the intensity of the supervisory signal are modulated in phase to the information signals to control a cross phase modulation effect, and because, as discussed above, no combination of Miyazaki, Kinoshita, Nelson, and Jopson discloses, teaches or suggests at least this subject matter.

Claims 2-4 and 6-8 are believed allowable for at least the reasons present above with respect to claims 1 and 5 by virtue of their dependence upon claims 1 and 5. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Conclusion

Therefore, all objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned attorney for Applicants at the telephone number indicated below in order to expeditiously resolve any remaining issues.

Respectfully submitted,

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